

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In Re Application of:

Marko LAMPINENE : Confirmation No.: **1383**
Serial No: **10/792,018** : Examiner: **Kevin M. BURD**
Filed: **March 2, 2004** : Group Art Unit: **2611**

For: **CPICH PROCESSING FOR SINR ESTIMATION IN W-CDMA SYSTEM**

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY BRIEF (37 C.F.R. § 41.41)

Sir:

This is a Reply Brief is in response to the Examiner's Answer of May 13, 2008, and in furtherance of the Appeal Brief filed March 12, 2008.

REMARKS

This Reply Brief is in response to the Examiner's Answer of May 13, 2008. Appellant continues to assert the arguments presented in the Appeal Brief, and responds to the Examiner's Answer with the discussion presented below.

In the final office action, claims 3-7, 9-12, 14-18 and 20-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Petre et al.* (U.S. Patent No. 7,158,558, hereafter referred to as *Petre*), in view of *Onggosanusi et al.* (U.S. Patent Application Publication No. 2002/0196842, hereafter referred to as *Onggosanusi*). In rejecting those claims, the Examiner admits that *Petre* fails to disclose estimating SINR from the despread CPICH, but points to *Onggosanusi* for disclosing that feature.

However, *Onggosanusi* fails to disclose the signal stream is in the form for space-time transmit diversity transmission (STTD). While *Onggosanusi* discloses a communications system having a number of transmit antennas as shown in Figures 1 to 4, the multiple transmit antenna system is used in a multi-input multi-output (MIMO) system. See *Onggosanusi* paragraphs [0008], [0009], [0013], [0016], [0049], [0062]. In one of the embodiments, *Onggosanusi* uses four transmit antennas TAT₁ to TAT₄ and a larger number of receive antennas RAT₁ to RAT_Q (Q>4) in a MIMO system with double space-time block coded transmit antenna diversity (DSTTD). In this DSTTD system, *Onggosanusi* uses two STTD encoders to combine information multiplexing with transmit diversity MIMO. Thus, the DSTTD scheme in *Onggosanusi* is not applicable for space-time transmit diversity (STTD) transmission. Therefore, *Onggosanusi* does not disclose that the signal stream is in the form for space-time transmit diversity transmission.

In the Examiner's Answer, the Examiner states that DSTTD is one of the types of space-time transmit diversity(STTD) transmission. In particular, the Examiner states that "the double space-time block coded transmit antenna diversity transmission is inherently a space-time transmit diversity transmission since double space-time block coded transmit antenna diversity transmission is a specific type of space-time transmit diversity transmission." The Examiner suggests that space-time transmit diversity (STTD) transmission includes at least "single space-time transmit diversity transmission" and "double space-time transmit diversity (DSTTD) transmission," and since the claimed invention is not specifically limited to single space-time

transmit diversity transmission, or does not specifically exclude double space-time transmit diversity transmission, all types of space-time transmit diversity transmission are acceptable for the method of claim 3, and in the receiver of claim 6 (page 9, first paragraph and page 12, third paragraph). Appellant respectfully disagrees with the assertion of the Examiner. To the contrary, STTD is a special case of DSTTD involving two antennas instead of four as required by the system disclosed in *Onggosanusi*. See *Onggosanusi* Figure 4. Therefore, DSTTD is not included within STTD, because DSTTD is not a specific type of STTD transmission, instead STTD is a specific type of DSTTD transmission. Therefore, since *Onggosanusi* only discloses DSTTD transmission, and is not suitable for STTD transmission, the cited references alone or in combination necessarily fail to disclose all of the limitations recited in the claims.

A signal transmitted in a DSTTD system is **different** from a signal stream in the space-time transmit diversity transmission, because a DSTTD system applies information multiplexing into two STTD blocks. For example, one of the STTD blocks transmits symbols $S_{1,1}$ and $S_{1,2}$ and the other STTD block transmits symbols $S_{2,1}$ and $S_{2,2}$ (see paragraph [0083]) The spatially parallel transmission causes additional interference. This interference would not be correctly taken into account by the claimed pilot processing for the space-time transmit diversity transmission scheme. Thus, the DSTTD scheme in *Onggosanusi* is not applicable for space-time transmit diversity transmission, and the cited references alone or in combination necessarily fail to disclose all of the limitations recited in the claims.

Conclusion

For the reasons discussed above as well as those previously presented in appellant's Appeal Brief, appellant respectfully submits that the rejections of the final Office Action have been shown to be inapplicable, and respectfully requests that the Board reverses the rejections to the pending claims. The undersigned hereby authorizes the Commission to charge Deposit Account No. 23-0442 for any fee deficiency required to submit this Reply Brief.

Respectfully submitted,

Date: 1 July 2008

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